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ABSTRACT

The records of 7,499 college students were examined to determine if the Nelson Denny Reading Test (NDRT) scores, high school or college grades, high school rank or ACT composite scores differed across 8 colleges or major student groups at a midwestern state university. Arts and science students and music students tended to produce slightly higher NDRT scores, with music, arts and sciences, and business students producing slightly higher ACT composite scores. Undecided students tended to produce lower scores and ranks. Differences across majors tended to exceed differences within four similar majors that were offered by two colleges. When 1,579 education students were compared with noneducation students, the education students tended to produce higher high school grades, high school class ranks, and college grades while producing somewhat lower SAT and ACT math scores. When education students were subdivided into those in teacher preparation programs and those in various associated but nonteacher programs, no major changes in the previous results were produced. (Author)

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The Comparative Academic Abilities of Students in Education and in Other Areas of a Multi-Focus University

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Running head: COMPARATIVE ACADEMIC ABILITIES

SP 032 663

Abstract

The records of 7499 college students were examined to determine if Nelson Denny Reading Test (NDRT) scores, high school or college grades, high school rank or ACT Composite scores differed across eight colleges or major student groups of a midwestern state university. Arts and Science students and Music students tended to produce slightly higher NDRT scores with Music, Arts and Sciences, and Business students producing slightly higher ACT Composite scores. Undecided students tended to produce lower scores and ranks. Differences across majors tended to exceed differences within four similar majors that were offered by two colleges. When 1579 Education students were compared with non-education students, the Education students tended to produce higher high school grades, high school class ranks, and college grades while producing somewhat lower SAT and ACT math scores. When Education students were subdivided into those in teacher-preparation programs and those in various associated but non-teacher programs, no major changes in the previous results were produced.

The Comparative Academic Abilities of Students in Education and in Other Areas of a Multi-Focus University

Although the 1983 publication of The Nation at Risk: The Imperative for Educational Reform focused national attention upon the selection, preparation and function of America's teachers, serious concerns about teacher quality predate the current reform movement. In 1930, Abraham Flexner charged that Education courses, Education faculty, and Education students were all of inferior intellectual quality and that educational literature dealt with such unimportant topics "that it may well seem as though they were designed to frighten off intelligence" (p. 102). The president of Harvard, James B. Conant (1963) and James Koerner (1963) were two of the better known critics of the background and intellectual preparation of American teachers during the post-war expansion of the educational system. More recently, Vance and Schlechty (1982) and Weaver (1979) have provided evidence that the 1970s decline in demand for teachers also may have caused the most able students to avoid education while permitting the least able college students to enter the declining education programs that were too desperate for students to impose rigorous standards. In summation, the

academic abilities of American Education students and of school teachers have been questioned for more than half a century.

Counterclaims. There are three major counterclaims or sets of evidence that run counter to the claim that Education students and/or teachers tend to be of lower ability than their college-attending counterparts in other areas: (1) Brubaker and Yonker (1987) made the point that most of the evidence describes pre-college students who planned to become teachers and not students who actually entered education programs. They also provided evidence that freshmen in Education compared well with freshmen entering other programs in a multi-college university. (2) Fisher and Feldmann (1985) cited several studies in which the college grades of Education students were superior to those of other students. Unfortunately, grades are not comparable across programs (see Goldman & Slaughter, 1976; and Milton, Pollio & Eison, 1986, for an argument that weaker programs may give higher grades). (3) The strongest type of argument is presented by Olsen (1985) who reported that Education graduates were "found to be equal to, and in some cases better than, non-education graduates" (of the University of Wisconsin-Parkside) on 11 academic variables.

The Purpose

The purpose of this study was to extend the Brubaker and Yonker (1987) comparisons and replicate the Olsen (1985) study

by employing academic indicators that described graduating seniors as well as entering freshmen. Education students at all grade levels were compared with students at similar levels in other colleges of a multi-college university. Such a comparison would permit comparisons of Education freshmen with other freshmen, sophomores with sophomores, juniors with juniors, and seniors with seniors.

Method

Subjects

The students involved in this study (N = 7499) all entered a mid-sized (16,000 undergraduates), state-supported, multi-college university as freshmen in the summer or fall of 1983 through 1988. All obtained non-zero scores on Form E of the Nelson-Denny Reading Test (NDRT) during their pre-registration period. The students who were registered for classes during the spring semester of 1989 were chosen for this study. The majority of these students had American College Testing Program (ACT) scores on record. Most also had their current college grade point average (COL GPA) as well as their high school grade point average (HS GPA) on file. The approximate high school rank (in deciles with 1 = top tenth, 2 = next tenth, etc.) could be determined for many of these students (HS DECILE). The typical (mean) college GPA was 2.47 on a four-point scale (A = 4, B = 3, C = 2, D = 1, F = 0); and

the mean ACT Composite score was 20.3. A subset of students were those who were enrolled in four parallel majors that were common to the College of Education and to a College of Arts and Sciences: English, History, Mathematics, and Biology.

Measures

The major indicators of academic ability were the total scores on the Nelson-Denny Reading Test (NDRT), college grade point average (COL GPA), high school grade point average (HS GPA), high school decile rank in class (HS DECILE--with 1 = top tenth), and American College Testing Composite test scores (ACT COMP). All were drawn from the students' files. The sex, college affiliation, and college major also were drawn from the files of those students registered during the spring semester of 1989.

Procedure

Most freshmen entering the university during the summer or fall terms of 1983 through 1988 were asked to take the Nelson-Denny Reading Test as part of their pre-registration and placement procedures. The scores on these tests were combined in 1989 and matched to the records of students who were registered during the spring semester of 1989. At the completion of the spring semester of 1989, college grades and other data from student files were loaded into the matched NDRT

files. Various statistical procedures were called forth via use of the Statistical Package for the Social Sciences (SPSSX).

Results

Table 1 presents mean values that reflect five academic indicators for the College of Education and for seven other colleges or groups of students. The five academic indicators--(1) Nelson Denny Reading Test (NDRT) scores; (2) college grade point average (COL GAP); (3) high school grade point average (HS GPA); (4) high school decile rank in class (HS DECILE); and (5) American College Testing Program Composite scores (ACT COMP)--all differ to a significant degree across the colleges or groups.

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Insert Table 1 about here

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In general, the undecided or pre-major advising students and students in one of the smaller colleges tended to produce lower level "scores," while Music Performance (MUSIC) and Music Education (MUS/ED) students tended to produce the highest values for the five academic indicators. The superiority of the two groups of music students is true for the top of Table 1 that represents all students and for the bottom of the table that presents data only for 1989 graduates or newly-risen seniors

(students with 90 or more credit hours as of the end of the 1989 spring semester).

When examining Table 1 from the point of view of students from the College of Education, students from another large college (A) produced NDRT scores and ACT Composite scores that exceeded those of Education students regardless of whether all students or only seniors are compared. Students from College B (seniors or all students) also produced ACT Composite scores that exceeded those of students in Education. However, Education students (all grade levels) produced high school GPAs and high school ranks that were higher than those of College A students (and ranks that were higher than those of College B). There were no significant differences (Scheffe) in high school grades or ranks across the three larger colleges when only seniors were compared. The college grades of Education students were significantly higher than the college grades of students in the other two large colleges.

Comparisons within a common major. The Colleges of Education and of Arts and Sciences shared common majors which include: Biology; English; History; and Mathematics. The program requirements for the students were nearly identical but Education students also completed those education courses needed to meet teacher certification requirements. Table 2 presents

comparisons between the two colleges for students in the same majors.

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Insert Table 2 about here

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There were very few differences across colleges within common majors. The Education students in math and in English tended to have slightly higher high school ranks (lower decile values since 1 = top tenth of the class) than their colleagues in Arts and Sciences, and the seniors in Education's English tended to have somewhat higher college grade point averages than their Arts and Science colleagues. However, there were more notable differences across majors than within majors--with math students doing considerably better in high school than students in other majors.

Table 3 presents a comparison of scores in which Education student scores are compared with scores of all other students. Education students tended to produce higher grades in high school and in college. "Other" students produced higher ACT and SAT math scores. The differences tended to be more true of seniors than or students in other levels. Effect sizes tended to be low.

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Insert Table 3 about here

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Table 4 permits a comparison of the teacher-preparation students with all other students. Those students in the College of Education who were in non-teaching programs (n = 239) were shifted into the Not Teacher Education column. No major changes were found.

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Insert Table 4 about here

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Conclusions and Discussion

There were slight differences in the common indicators of academic ability across different groups of students. Music students, both those in education programs and those in performance programs, tended to produce somewhat higher reading test scores than most other students. Math majors appeared to do well on most measures. Undecided students appeared to produce somewhat lower scores or ranks than most other groups. There were some differences in student scores or ranks across the three larger colleges. Regardless of whether students of all levels (freshmen through seniors) or only seniors were compared, students in College A tended to produce higher NDRT scores than those in Education or College B, and students in

both College A and in College B produced higher ACT Composite scores. The high school grades and ranks of the Education students, however, tended to exceed those of the students in College A when all levels were compared. This high school grade difference was not true for seniors.

When students in similar programs were compared across two colleges, there were no significant differences between students in Arts and Sciences and those of the same major in the College of Education. The very few differences that did exist tended to favor the Education students and showed in their slightly higher ranks in their high school classes. However, there were notable differences across the four different majors.

Conclusion. It is quite apparent that different majors or programs tend to draw somewhat different students. The general differences in student academic abilities across the larger colleges tended to range from slight to nonexistent in this particular multi-college, multi-purpose, state-supported university. Perhaps it might be more appropriate to deal with the skills and talents of individual students rather than attempt to stereotype these students by predicting their abilities by identifying their college.

Nothing in this report addressed the possibility that greater differences might exist in other institutions or across institutions. There also was no attempt to test the accuracy of

the belief that less able graduates stay in teaching while more able graduates leave the profession. Data from our College's follow-up studies seems to support the position that the more able graduates from education tend to go on to graduate school OR to be hired as teachers, while the less able graduates are less likely to do either within six months of graduation.

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References

Brubaker, H. A., & Yonker, R. J. (1987). Are those who select a career in teaching the academic equals of their nonteaching counterparts? American Secondary Education, 16(1), 2-7.

Conant, J. (1963). The education of American teachers. New York: McGraw-Hill.

Fisher, R., & Feldman, M. (1985). Some answers about the quality of teacher education students. Journal of Teacher Education, 36(3), 37-40.

Flexner, A. (1930). Universities: American, English, German. Oxford, England: Oxford University Press.

Goldman, E. D., & Slaughter, R. E. (1976). Why college grade point average is difficult to predict. American Educational Research Journal, 11, 343-357.

Koerner, J. (1963). The miseducation of American teachers. Boston: Houghton Mifflin.

Milton, O., Pollio, H. R., & Eison, J. A. (1986). Making sense of college grades: Why the grading system does not work and what can be done about it. San Francisco: Josey-Bass.

Olsen, D. G. (1985). The quality of prospective teachers: Education vs. noneducation graduates. Journal of Teacher Education, 36(5), 56-59.

Vance, V. S., & Schlechty, P. C. (1982). The distribution of academic ability in the teaching force: Policy implications. Phi Delta Kappan, 64(September), 22-27.

Weaver, W. T. (1979). In search of quality: The need for talent in teaching. Phi Delta Kappan, 61(September), 29-32, 46.

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Table 1

Mean Scores of Students from Different Colleges: Five Indicators of Academic Ability

A. ALL GRADE LEVELS = FR, SOPH, JR, SR (as of end of Spring 1989)

	NDRT			COL GPA			HS GPA			HS DECILE			ACT COMP		
	M	(SD)	N	M	(SD)	N	M	(SD)	N	M	(SD)	N	M	(SD)	N
1. Education	104	(22.6)	1717	2.63	(.70)	1717	3.03	(.48)	1579	3.4	(1.9)	1642	20.0	(4.1)	1566
2. College A	108	(24.0)	2271**	2.43	(.73)	2271*	2.94	(.50)	2065*	3.8	(2.1)	2162*	20.6	(4.4)	1987**
3. College B	103	(21.6)	1981	2.42	(.68)	1981*	2.96	(.52)	1820	3.7	(2.1)	1907*	20.8	(4.0)	1724**
4. Music	114	(21.4)	31	2.76	(.70)	31	3.00	(.52)	24	3.4	(2.2)	27	21.3	(4.1)	27
5. College C	97	(23.7)	254*	2.44	(.58)	254*	2.75	(.41)	236*	4.3	(2.0)	235*	19.5	(4.1)	201
6. College D	102	(22.0)	816	2.55	(.73)	816	3.00	(.50)	742	3.4	(2.0)	788	19.5	(4.3)	722
7. Music Educ.	110	(24.3)	111	2.71	(.76)	111	3.13	(.50)	108	3.0	(1.7)	111	20.4	(5.1)	101
8. Undecided	100	(23.6)	318	1.97	(.78)	318*	2.64	(.53)	277*	5.0	(2.3)	288*	19.0	(4.4	266
All	105	(23.0)	7499	2.47	(.72)	7499	2.96	(.51)	6851	3.7	(2.1)	7160	20.3	(4.3)	6594
F Ratios	F = 18.8		p < .0001	F = 41.8		p < .0001	F = 28.7		p < .0001	F = 14.7		p < .0001	F = 14.7		p < .0001

B. STUDENTS WITH 90+ SEMESTER HOURS OF CREDIT (as of end of Spring 1989)

1. Education	105	(21.7)	968	2.95	(.44)	968	3.16	(.42)	893	2.90	(1.6)	931	20.4	(3.8)	891
2. College A	111	(23.5)	920**	2.82	(.48)	920*	3.11	(.44)	842	3.14	(1.8)	881	21.3	(4.1)	807**
3. College B	106	(21.3)	830	2.76	(.45)	830*	3.16	(.45)	769	2.98	(1.7)	804	21.8	(3.5)	757**
4. Music	114	(20.6)	10	3.00	(.29)	10	3.33	(.29)	8	2.40	(1.5)	10	21.0	(4.9)	8
5. College C	99	(24.9)	109	2.69	(.48)	109*	2.86	(.38)	101*	3.80	(1.8)	101*	20.1	(4.0)	80
6. College D	104	(21.3)	367	2.96	(.45)	367	3.17	(.42)	335	2.77	(1.5)	356	20.2	(3.9)	321
7. Music Educ.	114	(24.3)	61	3.12	(.43)	61	3.28	(.45)	58	2.43	(1.4)	61	21.4	(5.1)	53
8. Undecided	55	(--)	1	1.61	(-)	1	--	--	--	--	--	--	--	--	--
All	107	(22.5)	3266	2.86	(.47)	3266	3.14	(.44)	3006	2.99	(1.7)	3145	21.0	(3.9)	2917
F Ratios	F = 10.1		p < .0001	F = 21.4		p < .0001	F = 10.0		p < .0001	F = 6.8		p < .0001	F = 11.6		p < .0001

NOTE: *Significantly lower than EDAP **Significantly higher than EDAP (at .05 level of significance via Scheffe's contrast test)

Table 2

Comparisons Across Two Colleges of Students in Five Majors

A. All Levels: Freshman, Sophomore, Junior, and Senior

Major/Variable		Education M	(SD)	N	A&S M	(SD)	N	t	P (two-tailed)
English	HS GPA	3.06	(.45)	77	2.87	(.45)	44	2.23	.027
English	HS Decile	3.23	(1.7)	78	4.38	(2.1)	43	3.21	.004
English	ACT COMP	21.9	(3.5)	71	22.4	(3.2)	40	.73	.454
English	NDRT	124.5	(21.5)	82	128.7	(19.3)	46	1.15	.253
English	COL GPA	2.57	(.81)	82	2.53	(.57)	46	.31	.760
Biology	HS GPA	3.15	(.45)	23	3.16	(.50)	101	.15	.889
Biology	HS Decile	2.96	(1.5)	24	2.86	(2.0)	107	.23	.820
Biology	ACT COMP	22.1	(3.9)	21	22.2	(4.0)	99	.06	.951
Biology	NDRT	111.3	(19.8)	24	111.3	(23.9)	112	.00	.998
Biology	COL GPA	2.72	(.59)	24	2.43	(.85)	112	1.61	.109
History	HS GPA	2.90	(.32)	9	2.80	(.33)	22	.77	.448
History	HS Decile	3.50	(1.7)	10	4.13	(1.9)	23	.90	.373
History	ACT COMP	22.2	(2.3)	10	23.4	(2.7)	20	1.19	.242
History	NDRT	124.4	(21.1)	10	125.5	(19.4)	24	.14	.888
History	COL GPA	2.28	(.70)	10	2.61	(.66)	24	1.13	.203

(table continues)

Table 2 (continued)

Major/Variable	Education M (SD) N	A&S M (SD) N	t	P (two-tailed)
Math HS GPA	3.48 (.42) 70	3.28 (.47) 15	1.66	.100
Math HS Decile	1.81 (1.7) 72	3.00 (1.8) 13	3.18	.002
Math ACT COMP	23.3 (3.2) 68	23.9 (4.4) 13	.64	.526
Math NDRT	109.2 (19.5) 75	112.0 (24.2) 15	.49	.622
Math COL GPA	2.76 (.79) 75	2.81 (.81) 15	.21	.832
B. Only Seniors: Students with 90+ Credits as of Spring 1989				
English HS Decile	2.64 (1.3) 432	3.86 (2.0) 22	2.96	.004
English COL GPA	3.05 (.36) 44	2.77 (.40) 24	2.98	.004
English	No significant difference for HS GPA, ACT Composite or NDRT score.			
Biology	N = 13 Educ.; 43 A&S. No significant difference on any variables.			
History	N = 3 Educ.; 13 A&S. No significant difference on any variables.			
Math	N = 43 Educ.; 6 A&S. No significant difference on any variables.			

Table 3

Comparative Academic Abilities of Students in Education and Students in Other Colleges of the University

Academic Indicators	Education Mean	(SD)	n	Other Than Education Mean	(SD)	n	t	p[a] (two-tailed)	Effect[b] Size Diff./S.D.
All Levels									
1. H.S. GPA	3.03	(.48)	1579	2.94	(.52)	5272	6.3[d]	.000	.018
2. H.S. Rank[c]	3.37	(1.9)	1642	3.74	(2.1)	5518	6.5[d]	.000	.177
3. College GPA	2.62	(.70)	1717	2.42	(.72)	5782	10.4[d]	.000	.278
4. ACT-English	19.70	(3.7)	1566	19.60	(4.0)	5030	.9[d]	.380	---
5. ACT-Math	18.90	(5.9)	1564	19.50	(6.1)	5026	3.5	.000	.010
6. ACT-Soc. Sci.	18.40	(5.9)	1566	19.10	(6.0)	5027	3.9[d]	.000	.117
7. ACT-Nat. Sci.	22.30	(5.0)	1567	22.70	(5.2)	5028	3.3[d]	.001	.078
8. ACT Composite	20.00	(4.1)	1566	20.40	(4.3)	5028	3.4[d]	.001	.094
9. SAT-Verbal	42.90	(8.1)	492	43.30	(8.2)	1843	1.0	.300	---
10. SAT-Math	46.10	(8.9)	492	47.50	(8.9)	1844	3.1	.002	.157
11. ND Rdg. Test[e]	104.10	(22.6)	1717	104.80	(23.1)	5782	1.0	.301	---
Freshmen and Sophomores									
1. H.S. GPA	2.77	(.53)	397	2.72	(.54)	1975	1.6	.104	--
2. H.S. Rank[c]	4.41	(2.3)	410	4.54	(2.3)	2056	1.1	.284	--
3. College GPA	1.94	(.80)	431	1.95	(.78)	2184	.2	.825	--
4. ACT-English	19.00	(4.0)	391	18.70	(4.3)	1863	1.1	.272	--
5. ACT-Math	16.80	(6.2)	391	17.90	(6.5)	1864	3.1	.002	.17
6. ACT-Soc. Sci.	17.10	(6.0)	391	18.00	(6.3)	1866	2.7	.007	.15
7. ACT-Nat. Sci.	21.40	(5.3)	391	21.90	(5.6)	1865	1.5	.134	--
8. ACT Composite	18.70	(4.4)	391	19.30	(4.7)	1865	2.1	.038	.13
9. SAT-Verbal	41.20	(9.1)	111	42.30	(8.6)	614	1.1	.259	--
10. SAT-Math	43.90	(9.3)	111	45.90	(9.0)	614	2.2	.030	.22
11. ND Rdg. Test[e]	102.00	(24.0)		101.80	(24.0)	2184	.17	.868	--
Juniors									
1. H.S. GPA	2.97	(.43)	289	2.59	(.46)	1184	.81	.417	---
2. H.S. Rank[c]	3.44	(1.8)	301	3.67	(2.0)	1248	1.8[d]	.072	---
3. College GPA	2.57	(.47)	318	2.52	(.49)	1300	1.96[d]	.051	---
4. ACT-English	19.60	(4.0)	284	19.80	(3.8)	1137	.56	.578	---
5. ACT-Math	19.00	(5.7)	284	20.10	(5.7)	1137	2.9	.003	.193
6. ACT-Soc. Sci.	18.90	(6.0)	284	19.10	(5.8)	1137	.31	.759	---
7. ACT-Nat. Sci.	22.50	(4.9)	284	22.80	(4.9)	1137	.99	.320	---
8. ACT Composite	20.10	(4.1)	284	20.60	(4.0)	1137	1.6	.105	---
9. SAT-Verbal	43.60	(8.1)	98	43.10	(7.8)	461	.53	.598	---
10. SAT-Math	46.40	(7.7)	98	47.40	(8.8)	461	1.0	.311	---
11. ND Rdg. Test[e]	104.20	(23.0)	318	104.80	(22.3)	1300	.38	.706	---

(table continues)

Table 3 (continued)

Academic Indicators	Education Mean	(SD)	n	Other Than Education Mean	(SD)	n	t	p[a] (two-tailed)	Effect[b] Size Diff./S.D.
Seniors and Just-Graduated Students									
1. H.S. GPA	3.16	(.42)	893	3.13	(.44)	2113	1.48[d]	.139	--
2. H.S. Rank[c]	3.00	(1.6)	931	3.03	(1.7)	2214	2.03[d]	.043	.017
3. College GPA	2.95	(.44)	968	2.82	(.47)	2298	7.5	.000	.281
4. ACT-English	20.00	(3.5)	891	20.30	(3.7)	2025	1.7	.083	---
5. ACT-Math	19.80	(5.6)	889	20.70	(5.6)	2025	3.9	.000	.161
6. ACT-Soc. Sci.	18.80	(5.6)	891	20.00	(5.7)	2024	5.3	.000	.211
7. ACT-Nat. Sci.	22.60	(4.9)	892	23.50	(5.0)	2026	4.7	.000	.18
8. ACT Composite	20.40	(3.8)	891	21.30	(3.9)	2026	5.2	.000	.23
9. SAT-Verbal	43.30	(7.6)	283	44.30	(8.0)	768	1.8	.069	--
10. SAT-Math	47.00	(9.0)	283	49.00	(8.7)	769	3.3	.001	.22
11. ND Rdg. Test[e]	105.00	(21.7)	968	107.60	(22.7)	2298	3.0	.003	.01

Notes:

[a] p = Probability that any difference is sampling error (two-tailed test).

[b] Effect Size is the difference between means divided by the total standard deviation--for significant differences at the .05 level.

[c] H.S. Rank is recorded in deciles with 1 = top tenth of the class.

[d] These t tests were calculated using separate variances due to Fmax differences (.05) in group variances.

[e] ND Rdg. Test was the Total score on Form E of the Nelson-Denny Reading Test.

Table 4

Comparative Academic Abilities of Teacher Education Students and Other Students in the University

Academic Indicators	Teacher Education Mean	(SD)	n	Other Than Education Mean	(SD)	n	t	p[a] (two-tailed)
All Levels								
1. H.S. GPA	3.04	(.48)	1363	2.94	(.52)	5490	6.9[c]	.000
2. H.S. Rank[b]	3.32	(1.9)	1410	3.73	(2.1)	5752	7.1[c]	.000
3. College GPA	2.63	(.72)	1478	2.43	(.72)	6023	9.5	.000
4. ACT-English	19.80	(3.7)	1365	19.57	(4.0)	5233	2.1[c]	.035
5. ACT-Math	18.91	(5.9)	1363	19.52	(6.1)	5229	3.3	.001
6. ACT-Soc. Sci.	18.52	(5.9)	1365	19.02	(6.0)	5230	2.8	.006
7. ACT-Nat. Sci.	22.25	(5.0)	1366	22.73	(5.2)	5231	3.1	.002
8. ACT Composite	20.01	(4.1)	1365	20.34	(4.3)	5231	2.6[c]	.009
9. SAT-Verbal	43.33	(8.2)	398	43.21	(8.2)	1938	0.27	.791
10. SAT-Math	46.11	(8.9)	398	47.48	(8.9)	1938	2.79	.005
11. ND Rdg. Test[d]	104.78	(23.0)	1478	104.57	(23.0)	6023	0.31	.757

Notes:

[a] p = Probability that any difference is sampling error (two-tailed test).

[b] H.S. Rank is recorded in deciles with 1 = top tenth of the class.

[c] These t tests were calculated using separate variances due to Fmax differences (.05) in group variances.

[d] ND Rdg. Test was the Total score on Form E of the Nelson-Denny Reading Test.

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PDAT_[90]

LEVEL_

AUTH_Wood, Peter H.

TITLE_The Comparative Academic Abilities of Students in Education and in Other Areas of a Multi-Focus University.

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DESC_*Education Majors; *Majors (Students); *Academic Ability; *Test Results; *Comparative Analysis; College Students; Higher Education; Academic Achievement

ABST_The records of 7,499 college students were examined to determine if the Nelson Denny Reading Test (NDRT) scores, high school or college grades, high school rank or ACT Composite scores differed across eight colleges or major student groups of a midwestern state university. Arts and science students and music students tended to produce slightly higher NDRT scores with music, arts and sciences, and business students producing slightly higher ACT Composite scores. Undecided students tended to produce lower scores and ranks. Differences across majors tended to exceed differences within four similar majors that were offered by two colleges. When 1,579 education students were compared with non-education students, the education students tended to produce higher high school grades, high school class ranks, and college grades while producing somewhat lower SAT and ACT math scores. When education students were subdivided into those in teacher-preparation programs and those in various associated but non-teacher programs, no major changes in the previous results were produced. (Author)